IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: PULLELA ET AL.

Application No. 10/625,063

Confirmation No. 8263

Filed: July 22, 2003

Group Art Unit: 2188

Examiner: DOAN, DUC T.

For: IDENTIFYING A FLOW IDENTIFICATION
    VALUE MASK BASED ON A FLOW
    IDENTIFICATION VALUE OF A PACKET

REPLY BRIEF

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

      The Examiner's Answer in the Appeal Proceedings of this US Patent Application was mailed on January 7, 2008. This Reply Brief is being filed within two months of that date, and is in compliance with 37 CFR § 41.41. Appellants request the Office enter this Reply Brief and consider its arguments. Appellants requests all rejections be reversed, all claims be allowed, and the application be passed to issuance.

Representative claim 2 is set forth below.

"2. A method for processing packets, the method comprising:

identifying a flow identification value based on one or more fields extracted from a packet;

performing a lookup operation in one or more memories or associative memories using a lookup value generated based on the flow identification value in order to identify a flow identification value mask, the lookup value including the flow identification value;

masking the flow identification value with the flow identification value mask to generate a masked flow identification value; and

processing the packet or another packet based on the masked flow identification value."

Appellants position is quite simple. Basic claim construction requires, *inter alia*:

1. a value to be used to retrieve a mask; and

2. that same value masked by the retrieved mask.

The Office equates *Ikeda et al.'s* VPI/VCI 21 as the value used to retrieve the mask. Examiner's Answer, page 3, last paragraph. Therefore, to anticipate the claim, the mask must be used to mask *Ikeda et al.'s* VPI/VCI 21.

In fact, Appellants agree with the Office that *Ikeda et al.* teaches (in the embodiment relied upon by the Office), that a mask is retrieved based on VPI/VCI 21. So, the entire issue on appeal simply boils down to: whether or not Ikeda's VPI/VCI 21 is masked using the retrieved mask.

The Examiner's answer directly addressed this issue in paragraph [B], beginning on page 10 of the Examiner's Answer:

> "B) Appellant further argues that "Appellant can find no support in Ikeda et al. for the proposition that the received VPI/VCI 21 is both used to determined that mask, and masked by that determined mask..". Examiner disagrees."[1]

The Office then cites FIGs. 7 and 9 for illustrating what values are masked. In fact, Appellants agree with the Office that FIGs. 7 and 9 illustrate the values that are masked.[2] Therefore: Appellants request the Board either:

1. affirm the Office's rejection of the claims if VPI/VCI is shown in FIG. 7 or 9; or

2. reverse the Office's rejection of the claims if VPI/VCI is not shown in FIG. 7 or 9.

Both of FIGs. 7 and 9 illustrate that FLOW RETRIEVAL KEY (25) consists of the IP packet header values: DPORT, SPORT, DA, SA, PROTOCOL, and TOS. *In fact, VPI/VCI is not even shown in either of these figures.* For at least these reasons, the Office fails to present a *prima facie* case of anticipation, as *Ikeda et al.* teaches that the value used to retrieve the mask and is not masked by the retrieved mask. *The resolution of this appeal is really that simple.*

Note, if *Ikeda et al.* taught that a same value is used to retrieve a mask and then is masked by the retrieved mask, Appellants would have taken the allowable claims and not requested this appeal. However, *Ikeda et al.* neither teaches nor suggests such a recited limitation, and therefore, Appellants submit that all pending claims are allowable. Appellants further refer the Board to Appellants' Appeal Brief which explains how all of the teachings of *Ikeda et al.* are consistent with Appellants' position.

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[1] The exact sentence in Appellants' Appeal Brief to which the Office refers is: "Appellant's can find no support in *Ikeda et al.* for the proposition that the RECEIVED VPI/VCI 21 is both used to determine the mask, and masked by the determined mask as would be required for a proper rejection of claim 2."

[2] The fields of element 25: FLOW RETRIEVAL KEY are masked.

Furthermore, the Examiner's Answer misrepresents a cautionary note of Appellants in the Appeal Brief. Appellants point out that *Ikeda et al.* refers to "ATM cells" and "IP packets[3]." Appellants do not make an argument based on whether one has a fixed or variable length, but rather simply that these are different entities and the Office should take note of *Ikeda et al.'s* teachings in regards to ATM cells which it refers to as "cells", and IP packets which it refers to as "packets". Moreover, each of these is a well-defined network entity, as discussed on page 11 of Appellants' Appeal Brief, with the relevant values of each discussed in a corresponding excerpt *Ikeda et al.* reproduced *infra*.

Moreover, the Office misrepresents how networking protocols work and is inaccurate in its explanation of *Ikeda et al.* However, Appellants believe that providing a basic network protocol tutorial is outside the scope of this appeal, and suggest that if interested, there are good networking books authored by William Stallings and by Douglas E. Comer. Rather, Appellants urge the Board to simply rely on the text and figures of *Ikeda et al.*, as *Ikeda et al.* explains what values are used to retrieve the mask and where they come from, and what values are masked with the retrieved mask and where they come from.

Quite simply, and referring to FIG. 1 of *Ikeda et al.*, VPI/VCI 21 (used to retrieve the mask) is extracted from the header of received ATM cells 20, and this VPI/VCI is not part of received IP packet 22 created by Cell Receiving Section 1. The value that is actually masked is Flow Retrieval Key 25, which is extracted from the header of received IP packet 22 created by Cell Receiving Station 1. There is no commonality between (a) the value used to retrieve the mask, and (b) the values masked.

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[3] Appellants note that Ikeda et al. uses the term "IP Packet" to refer to a TCP/IP Packet, which is consistent with industry usage of the term.

The following is a relevant excerpt from *Ikeda et al.*, which is describing the embodiment illustrated in FIG. 1, which the Office uses in rejecting the claims. Note, some text in the lower, left-hand corner of FIG. 1 is cut-off, and Appellants believe it should read "20: Received ATM Cell".

> "The receiving section 1 extracts an input logical link number from received data and terminates the received data, thus creating a received IP packet. In this embodiment, an input logical link number is extracted from the received ATM cell 20 while the received IP packet 22 is configured in accordance with the type 5 of AAL (ATM adaptation layer).
> In this example, the connection (received VPI/VCI) 21 of a virtual path identifier (VPI) and a virtual channel identifier (VCI) described in the header of an ATM cell is extracted as an input logical link number.
> The packet receiving and processing section 2 checks the normality of the header of the received IP packet 22 output from the cell receiving section 1. When the header is normal, the packet receiving and processing section 2 extracts each field of the header as the flow retrieval key 25 from the header of the received IP packet 22 as well as the destination address (DA) 28, thus outputting the packet 23.
> In this embodiment, fields, including "TOS", "PROTOCOL", "source address (SA)", and "destination address (DA)" of an IP header as well as "source port (SPORT) and "destination port (DPORT)" of TCP or UDP header, are extracted as each field of the header of the received IP packet.
> The retrieval flag table 3 stores a retrieval flag for setting a field to be retrieved of fields of the header of a received IP packet and a connection as an input logical link number in a correspondence relationship. The retrieval flag table 3 outputs a retrieval flag 24 corresponding to the received VPI/VCI 21, as an input logical link number extracted by the cell receiving section 1."

Ikeda et al., col. 7, lines 24-54.

Appellants especially note the teaching of *Ikeda et al.* that "[t]he receiving section 1 extracts an input logical link number [VPI/VCI 21] from received data *and terminates the received data* [the ATM cells] thus creating a received IP packet." *Id.*, col. 7, lines 24-26 *(emphasis added)*. *Ikeda et al.* expressly teaches that the ATM connection *is terminated at Cell Receiving Section 1* (operating according to AAL5[4]). *Ikeda et al.* teaches that created

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[4] The standard for transportation of IP packets in ATM cells is defined in "Classical IP and

Received IP Packet 22 does not include the ATM header information (i.e., does not include VCI/VPI 21). Nor can the Office point out anywhere in *Ikeda et al.* where it does, as evidenced by the failure of FIGs. 7 and 9 to teach this (despite the Office's contention) as discussed *supra.* Appellants' Appeal Brief walks through the actual teachings of *Ikeda et al.*

It appears the Office fails to appreciate the teachings of *Ikeda et al.,* US Patent 6,788,683, and the fundamental difference between (a) terminating an ATM connection carrying ATM cells having encapsulated portions of IP packets and creating a received IP packets there from, and (b) the subsequent processing of the received IP packets, including masking of header fields of the IP packet.

In summary, the advantage of *Ikeda et al.* is that the inventor of *Ikeda et al.* realized that masking fields of the header of a received IP packet based on an input logical link number would reduce the number of entries in a retrieval table defining how to process the IP packet. *Id.,* col. 2, line 64 to col. 3, line 1 (Summary of the Invention). In other words, *Ikeda et al.* teaches determining a mask based on which virtual connection it is received as identified by the ATM VPI/VCI or Frame Relay DLCI, and then masking the header of the IP packet created from the received cells/frames. There is no commonality between the value used to retrieve the mask, and the values actually masked. The claims require determining the mask based on a value and then masking the same value with the mask. For at least these reasons, Appellants submit that the anticipatory rejections of the claims are improper. Furthermore, the Office determined that *Ikeda et al.* is the best art available, and *Ikeda et al.* operates fundamentally differently than the

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ARP over ATM," RFC 2225, Internet Engineering Task Force, ietf.org, April 1998. The unit of transport in ATM is a 53 octet fixed length cell. A cell consists of a 5 octet header and a 48 byte payload. IP packets are typically much larger than 48 octets, and therefore, must be segmented by the transmitter to fit into the 48 octet ATM cell payload, and reassembled by the receiver. Therefore, *Ikeda et al.'s* Cell Receiving Section 1 receives multiple ATM cells containing different portions of an IP packet, performs reassembly of the original IP packet, and *creates* Received IP Packet 22.
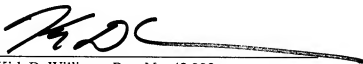
embodiments recited in the claims. For at least these reasons, Appellants submit that the best prior art available neither teaches nor suggests the limitations of any pending claim.

For at least the reasons presented herein and in the Appeal Brief, Appellants respectfully request the Board reverse all of Office's anticipatory rejections under 35 USC § 102(e). Appellants further request the Office allow all pending claims and pass the case to issuance as all pending claims are believed to be allowable over the best art available, and the application is considered in good and proper form for allowance.

Respectfully submitted,
The Law Office of Kirk D. Williams

Date: February 16, 2008

By

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